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FISH AND WILDLIFE SERVICE

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RESEARCH MAY LEAD TO MANY NEW PRODUCTS FROM FISH OIL

Those properties of fish oils which chemists call "unsaturated long-carbon-chain fatty acids" and which are partially responsible for the low price which fish oil sometimes brings on the market, may be transformed from liabilities to assets, Fish and Wildlife Service research experiments indicate.

Involved is recent work by the Service chemists in the Fishery Technological Laboratory in Seattle, Washington, to develop new chemical products from fish oil. It well may have opened the door to the utilization of fish oil in the manufacture of many products just as other efforts by chemists paved the way for the manufacture of hundreds of new products from coal.

This experimental program is being conducted in Service laboratories and in several universities under contract with the Fish and Wildlife Service. It is part of the Saltonstall-Kennedy program for increasing the production and enlarging the market for domestic fishery products. Another experimental program endeavoring to find new uses or better utilization of fish oil in its natural state, is being carried on at the Service's Fishery Technological Laboratory at College Park, Maryland, with several colleges cooperating.

A goal in the first program was achieved recently when some of the "unsaturated long-carbon-chain fatty acids" were isolated on a laboratory basis by some of the Service chemists in Seattle. Yet to be solved is the problem of isolating these unsaturated fatty acids commercially.

Fish and Wildlife Service chemists cannot say just what products will result from their work but they feel that once these unsaturated fatty acids are available to industry a number of new or synthetic products will be noted. As various compounds are developed at the Laboratory, the Service will release information to industrial chemists giving the physical and chemical characteristics of the material and a description of how the material was isolated.

Other efforts to develop new chemical products include work on fish meal and oil at the Service laboratory at Ketchikan, Alaska; studies on the structure and analysis of highly unsaturated and saturated acids, the problem of odor in fish oils and the chemistry of inclusion-type complexes in fish oils, at the University of Minnesota; oxidation of fish oils at the University of California; and the possibility of utilization of fish oil derivatives in ore flotation, at the University of Minnesota.

The studies on new uses of fish oils through improvements in their quality include a study of the chemical and physical characteristics of the oils, North Carolina State College; chromatographic analysis of the constituents of marine oils, Texas A & M Research Foundation; study of the nonglyceride fractions of fish oils, University of Delaware; use of fish oils in high energy poultry rations, University of Connecticut; preparation of new resins from fish oils, Arthur D. Little Company, Cambridge, Massachusetts; fish oil insecticides and fungicides for the citrus industry, Florida Southern College; fish oils in the lubrication of leather, University of Cincinnati. There is also a study on the use of fish oil in swine diets at Oregon State College.

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